CHAPTER 7

SECTION 6 PSITTACOSIS TESTING PROGRAM

7.6.1 PURPOSE

The psittacosis health monitoring program is mandatory and provides educational information for the employee as well as a program that will assist in the prevention of contracting the disease.

7.6.2 GENERAL

Psittacosis is a chlamydial disease that may be contracted by APHIS employees having direct contact with various avian species. Bird species which are known to harbor the chlamydial organism, the causative agent of psittacosis, are numerous. The more common species involved are birds of the psittacine family (parrots, parakeets, cockatoos, etc.), pigeons, and turkeys. Employees should also be aware that other animals, such as sheep and goats, are reported to carry the disease.

Psittacosis in humans varies considerably. Its incubation period is usually between 1 and 2 weeks, but may be longer. Symptoms may include fever, headache, and some involvement of the lungs. Initially, a cough may be absent; however, a cough usually develops as the disease progresses. Other clinical manifestations of the disease may be a lack of appetite, rash, diarrhea, vomiting, hepatitis, and fatigue. In rare cases, pregnant women exposed to *Chlamydia psittaci* can contract gestational psittacosis: atypical pneumonia, sepsis, and placental insufficiency resulting in premature birth or miscarriage. In the United States, prior to 1996 only two cases of gestational psittacosis were reported, both from exposure to psittacine birds. Eleven other cases were reported worldwide, mostly in the United Kingdom, all from exposure to infected birth fluids and membranes of farm mammals, notably sheep and goats. In these mammals, *C. psittaci* can inhabit the reproductive tract.

Persons <u>most</u> likely to contract psittacosis are those exposed to birds at bird quarantine facilities, border crossings, and import centers. The primary means of transmission is by inhalation. Infected birds excrete the chlamydial organism in their feces, and it is extremely viable in the dried state. Exposure to a contaminated environment, or even to the aerosol created by the beating of a caged bird's wings, is sufficient to produce infection. Psittacosis should be suspected when an ill employee has had recent contact with a sick or dead bird, although an apparently healthy bird can carry and shed chlamydiae. Person-to-person transmission of psittacosis is infrequent.

The Centers for Disease Control strongly recommends that pregnant women avoid contact with birth fluids or membranes of sheep and goats and close contact with psittacine birds during pregnancy.

7.6.3 RESPONSIBILITY

The responsibility for establishing and maintaining the psittacosis program in the field will be with the Occupational Medical Monitoring Program Coordinator (OMMPC) as delegated by the senior line manager and referenced in Sections 7.2.3 and 7.2.6.

7.6.4 HEALTH MONITORING PROGRAM

Diagnosis of psittacosis in humans can be made by serologic tests. A serological monitoring program will be established for employees having routine contact (once a week or more often) with birds or poultry. A preexposure blood sample will be taken as soon as possible from each employee to establish a serological baseline.

Blood tests will be performed every 6 months after the initial sampling and as long as the exposure exists.

Those employees having less than routine contact may volunteer for a serological monitoring program with the approval of their supervisor.

If an employee with less than routine contact decides not to participate in the health monitoring program for psittacosis, they still must be familiar with and abide by the other parts of this Section.

APHIS Form 29, Supervisor's Request for Health Monitoring, will be used in conjunction with all blood testing as outlined in Section 3.

If possible, employees should use U.S. Military, U.S. Public Health Service, Veterans' Affairs, and other Federal, county, or municipal health units to have serum samples collected and tested. Employees may use private physicians if such health units do not exist. The Marshfield Clinic is also available for testing the serum samples. See Section 7.3 for specific instructions for submitting samples to Marshfield.

Any employee who develops clinical signs of psittacosis and who has a history of exposure to birds or poultry will immediately notify his/her supervisor who will authorize a serological test for psittacosis, utilizing APHIS Form 29.

The OMMPC will ensure that blood test results and interpretation of those results are available when testing is performed at locations other than Marshfield.

7.6.5 PERSONAL PROTECTIVE EQUIPMENT

APHIS employees who are at risk must wear protective respirators covering the mouth and nose. A respirator with at least an N95 rating must be worn. Surgical masks may not be effective in preventing transmission. Goggles, antiseptic soaps, disinfecting solutions, and surgical gloves may also be necessary.

7.6.6 OTHER PRECAUTIONS

The following are precautions which will further assist in preventing the contraction of psittacosis:

Dust should be controlled by proper ventilation and cleaning of areas where dust collects, since the primary means of transmission to humans is by inhalation.

Because *C. psittaci* has a high lipid content, it is susceptible to most disinfectants and detergents. A 1:1,000 dilution of quaternary ammonium compounds (alkyldimethylbenzyl ammonium chloride [e.g., Roccal ® or Zephiran ®]) is effective, as is 70% isopropyl alcohol, 1% Lysol ® , 1:100 dilution of household bleach (i.e., 2.5 tablespoons per gallon [10 mL/L]), or chlorophenols. *C. psittaci* is susceptible to heat but is resistant to acid and alkali. Many disinfectants are respiratory irritants and should be used in a well-ventilated area. Avoid mixing disinfectants with any other product.

Waste from birds will not be allowed to accumulate. Wetting of the waste material with a disinfecting solution is helpful in reducing dust and destroying the chlamydial organism.

Protective gloves will be worn whenever birds are handled.

Birds will be necropsied in a biological safety hood which is equipped with a high efficiency particulate filter, or other system, to prevent the emission of infectious agents.

The feathers of birds to be necropsied must be moistened with water and detergent rather than a disinfectant. Disinfectants should not be used in the water since the residual effect of the disinfectant may destroy the purpose for the necropsy.

Individuals working with birds may be exposed to other microorganisms associated with birds, which are infectious for humans. Newcastle disease virus in humans is a good example. It may cause conjunctivitis and upper respiratory infection. Therefore, protection of the eyes should reduce the chance of contracting infection. Wearing protective goggles securely placed over the cheeks, forehead, temple, and bridge of the nose, in addition to the respirator, is recommended.

When possible, DO NOT keep birds in the office. When isolettes or filtered containers are not available, cover the bird cages with a dark cloth to keep the bird quiet. (NOTE: The cloth cover could contain the infectious airborne agents.)

Prior to working with birds or poultry in quarantine or on private premises each employee will be given information by the supervisor concerning psittacosis. This information will include symptoms, protective equipment, contact persons, etc.

7.6.7 MONITORING, REVIEWING, AND RECORDKEEPING RESPONSIBILITIES

7.6.7.1 Responsibilities of the Marshfield Clinic.

Analyze and interpret laboratory results of all samples received, as authorized by and with the consulting services of the USDA Medical Officer.

Make distribution of APHIS Form 29 as indicated in Section 3.

Notify by telephone the OMMPC or SHES if sample results reflect a titer indicative of infection.

7.6.7.2 Responsibilities of Supervisors.

Initiate all routine requests for psittacosis serological testing using APHIS Form 29 as directed by the appropriate OMMPC.

Ensure that all protective devices are available and that safety and health precautions are adhered to by employees.

Periodically contact each employee (new and current) and reinforce the ramifications of contracting psittacosis.

Be especially alert for the symptoms of psittacosis in themselves and their employees.

Authorize the use of APHIS Form 29, so that the employee may be examined by a physician at APHIS expense, if psittacosis is suspected, or clinical symptoms develop.

7.6.7.3 Responsibilities of the OMMPC.

Ensure that all employees who are exposed, or have the potential of being exposed to *C. psittaci*-infected animals, take preexposure and periodic blood tests as required.

Keep a record of psittacosis tests for all their employees. This record will be compiled based upon information taken from Part 5 of APHIS Form 29 and will include names of employees, dates of tests, and test results. It is recommended that a graph record of all tests be made for each employee. Records will be maintained for a period of 5 years.

Conduct an investigation to determine the reasons for the contraction of psittacosis by any employee. Results of the investigations and actions taken should remain on file and be available for APHIS safety and health reviews.

Has the ultimate responsibility to see that proper types and amounts of safety and health materials are on hand to adequately perform the job functions without contracting psittacosis, whenever there may be exposure to birds and poultry.